Pharmacological Management of Pediatric Chronic Pain

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Faculty/Presenter Disclosure

- Faculty: Naiyi Sun
- Relationships with commercial interests:
  - None
- This program has received financial support from the Ministry of Health (MOH)

Learning Objectives

- **By the end of this session, participants will be able to**:

➢ Summarize the evidence regarding commonly used analgesics in children and adolescents.

➢ Outline analgesic indications for pediatric acute and chronic pain.

➢ Review the use and limitations of analgesics for common types of chronic pain.

Zoom Poll Question #1

- Approximately how many Canadian children and adolescents experience chronic pain?

A. 1 in 2
B. 1 in 5
C. 1 in 10
D. 1 in 20

Pain in Children is Common:

Procedural pain:

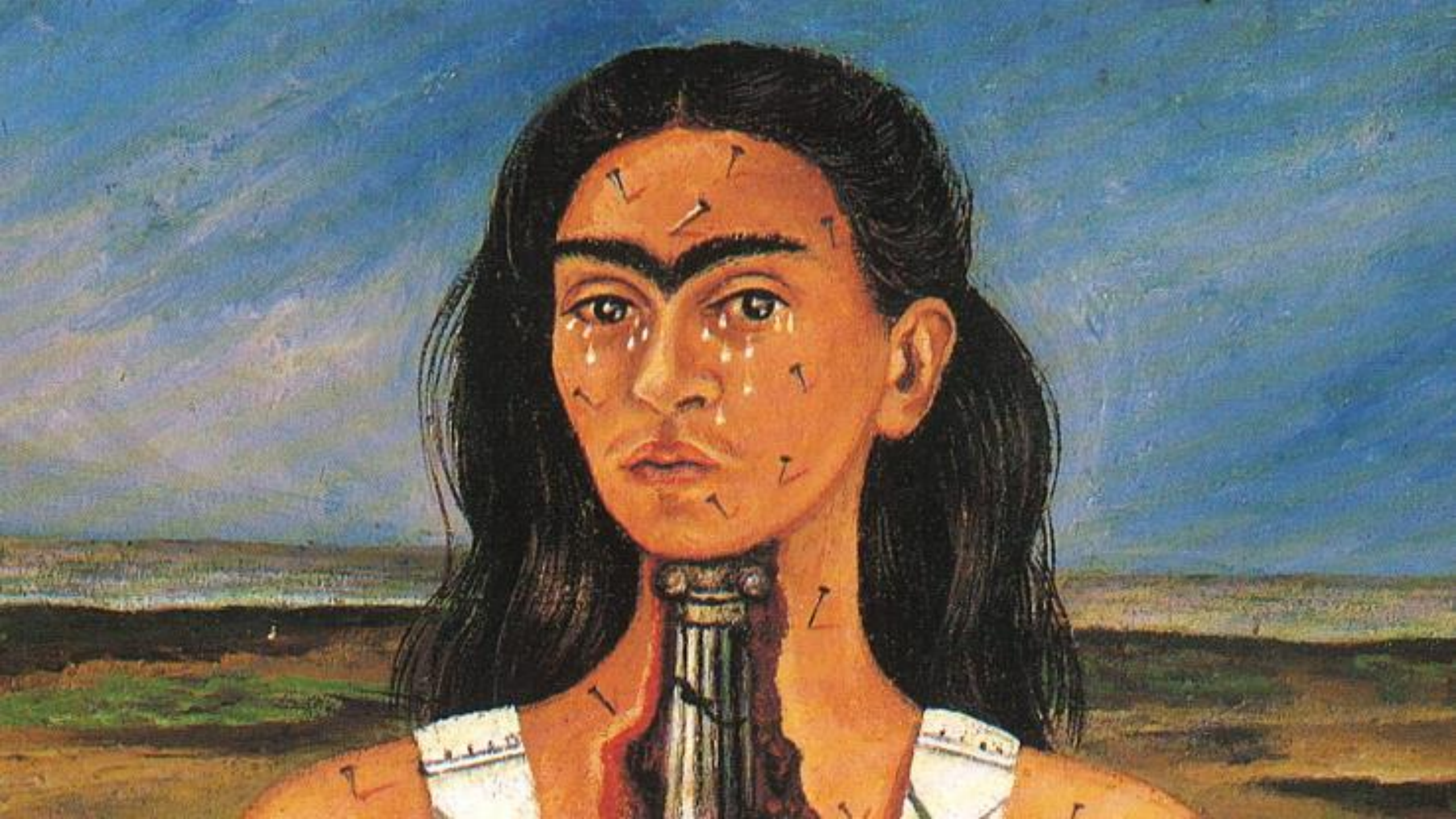
Hospitalized children experience an average of 6 painful procedures every 24 hours.

Pain in hospitalized children:

1/3 of hospitalized children have moderate or severe pain intensity on their pain assessment.

Chronic Pain:

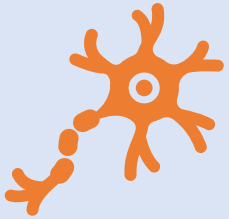
1/5 children experience chronic pain



Types of Pain:

Nociceptive pain

Pain from actual or potential damage to non-neural tissue.



Neuropathic pain

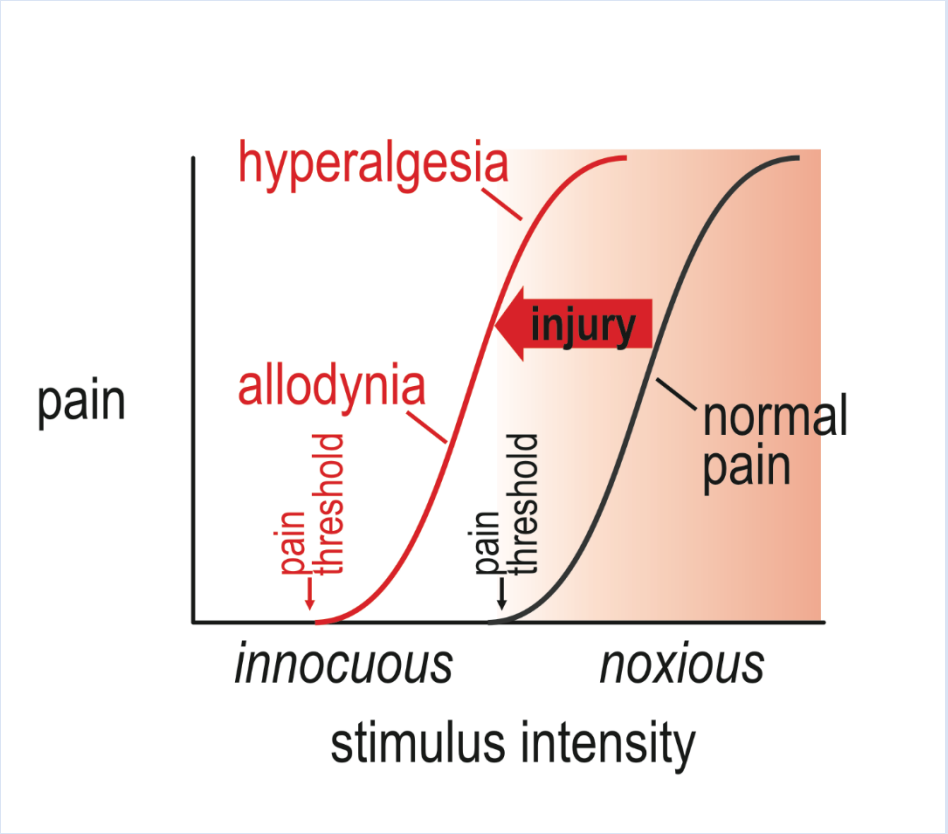
Pain that arises from a lesion or disease of somatosensory nervous system.

Nociplastic pain:

Pain from a dysfunction of the nervous system.

Central Sensitization:

- Previous inputs which were below threshold now reach threshold and initiate action potential.
  - Stimuli that generally do not provoke pain can produce pain (allodynia).
  - Stimuli that normally provoke pain can produce pain of a higher intensity (hyperalgesia).
- Increase in spontaneous activity.
- Enlargement of the area in periphery where stimulus will activate neurons.



Pain Classifications

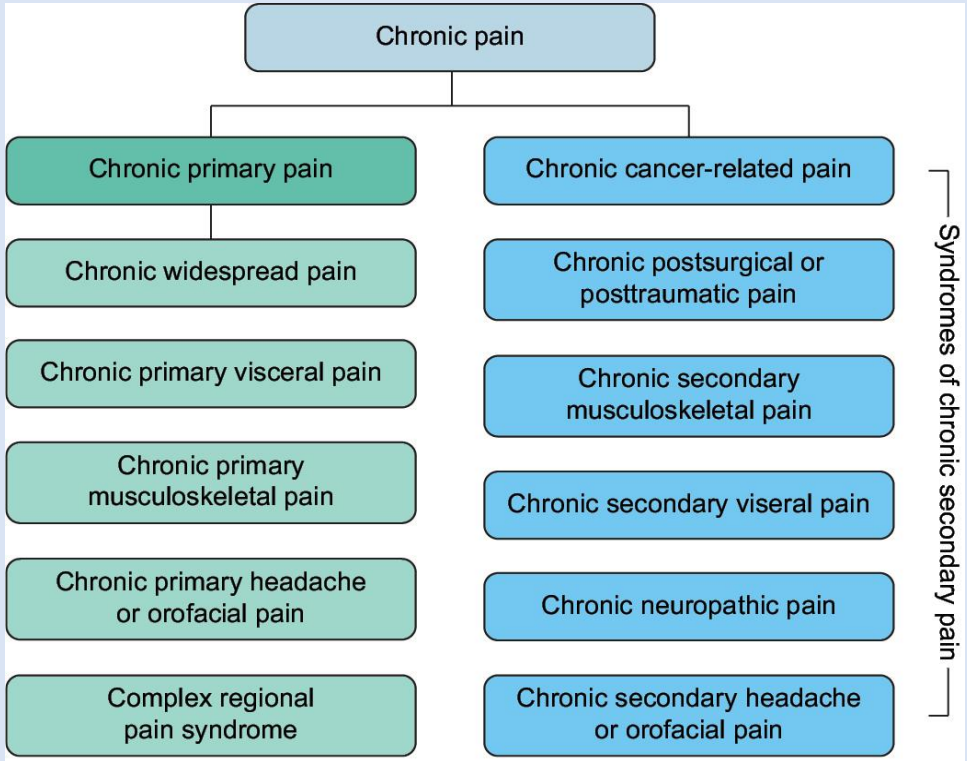


Figure 1. Chronic pain in the ICD-11. The classification distinguishes between conditions of *Chronic primary pain* and syndromes of known etiology or established pathophysiology that are associated with chronic (secondary) pain. Figure created by author, modified from Reference 5.

Treede RD et al. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain. 2019 Jan;160(1):19-27.

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Pooled Prevalence Estimate by Pain Type

Pain Type	Prevalence Estimate (95% CI)	Sex Differences
Headache	25.7 (22.2-29.3)	Female>Male
Musculoskeletal	25.7 (17.3-35.1)	Female>Male
Multisite/general	21.0 ((18.5-23.6)	Female>Male
Back	19.1 (16.6-21.7)	Female>Male
Abdominal	17.3 (14.3-20.5)	Female>Male
Other	6.9 (4.4-10.0)	Female>Male
Total	20.8 (19.2-22.4)	Female>Male

Chambers CT et al. The prevalence of chronic pain in children and adolescents: a systematic review update and meta-analysis. Pain. 2024 Oct 1;165(10):2215-2234.

Zoom Poll Question #2

- In your clinical practice, do you typically prescribe or recommend pain medications to children and adolescents?
  - A) Yes
  - B) No

Zoom Poll Question #3

- When treating a child's chronic pain, which of the following is true.

A. Best treated with medication alone
B. Usually responds to one modality
C. Psychological strategies are not effective if they have neuropathic pain
D. Multidisciplinary and multimodal approach is the most effective in treating chronic pain.

Pharmacotherapy For Chronic Pain:

Tired Sad Achy Can’t sleep Anxious Scared Stressed

Why is treating pain in children and youth important?

- Significant acute pain in kids is associated with the development of chronic pain.
- 2/3 of kids with chronic pain become adults with chronic pain.
- Young adults experiencing pain in adolescence:
  - 34% less likely to attain a high school diploma.
  - 17% less likely to attain a college education.
  - Less likely to have a full time job.
  - More likely to receive public assistance.
  - Increased risk of prescription opioid misuse in early adulthood.
- By treating pain in youth, we can reduce the burdens of pain and addiction in adults.

Murray CB et al. Long-term impact of adolescent chronic pain on young adult educational, vocational, and social outcomes. Pain. 2020;161(2): 439-45.

Groenewald CB et al. Associations between adolescent chronic pain and prescription opioid misuse in adulthood. The Journal of Pain. 2019;20(1):28-37.

The Perfect Analgesic

- Highly effective
- Safe with no side effects:
  - No sedation, respiratory depression, constipation, nausea
  - No withdrawal, dependence, tolerance, addiction.
- Easy to administer
- No drug interactions
- Cheap
- Quick onset, acceptable duration of action

Multidisciplinary Pediatric Pain Treatment:

Pharmacological
- WHO ladder
- Adjuvant tx

PATIENT

Physical
- Ice/heat
- Positioning
- TENS
- Massage

Psychological
- Education
- Distraction
- Relaxation

Patient Brad:

- 15 y boy with h/o thoracic outlet syndrome requiring surgery x 2 one year ago.
- h/o depression and anxiety prior to surgery, managed with fluoxetine.
- After surgery, he developed deep throbbing shoulder pain and shooting pain that starts in his shoulder and runs down his arm to his fingertip multiple times daily.
- Function: disrupted sleep, unable to focus at school, stopped playing basketball.
- Developed suicidal ideations.

Pharmacological Treatment of Pediatric Pain

There's very little evidence and guidelines to support medication use in pediatric population. Often rely on extrapolating adult data and expert consensus.

Pediatric analgesic trials are difficult to conduct.

Most medications are used off-label

Reinforce with patient and family that medication is just one part of a multi-prong attack.

Goals for Pharmacological Pain Treatment:

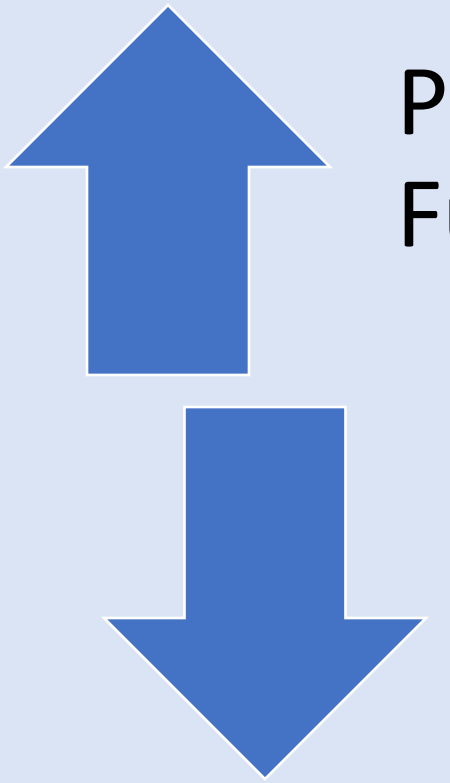
IMPROVE FUNCTION AND QUALITY OF LIFE.

FACILITATE PARTICIPATION IN OTHER THERAPIES.

REDUCE PAIN INTENSITY.

Realistic goals for treatments:

- Total pain relief is an unrealistic goal
- 30% pain reduction is significant
- Emphasis is on improving function with minimal side effects



Pain Relief
Function

Side
effects

Guiding principles in pharmacology:

Start low and go slow:

- Titration is critical in limiting side effects.

Individual variability:

- Responses and side effects can differ significantly between children.
- Balance effectiveness with safety; minimize side effects.

Engage patients and families in “Trial and Error” approach:

- Difficult to predict responders

Optimize placebo effect:

- Placebo effect is powerful

Guiding Principles in Pharmacology

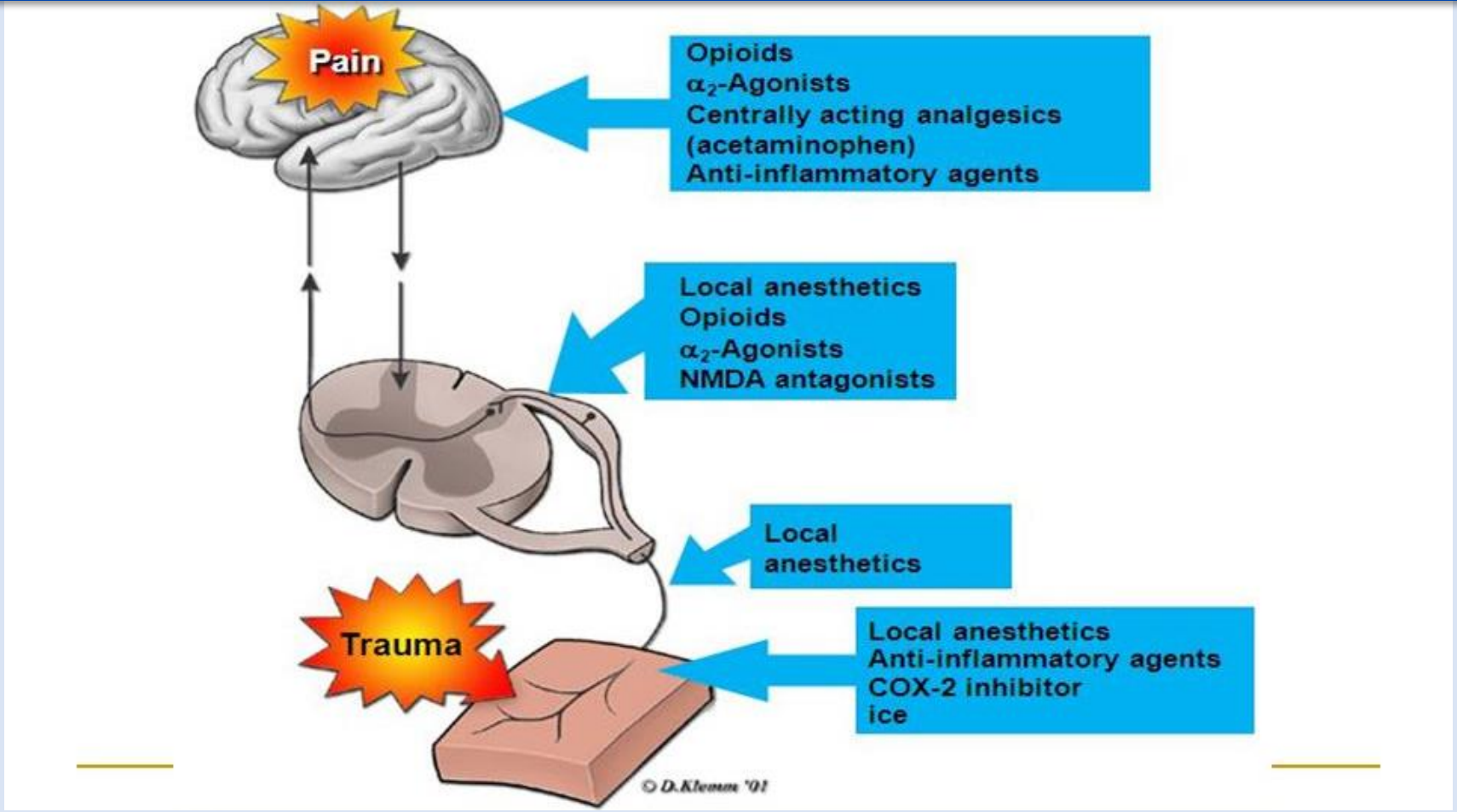
Numbers Needed to Treat (NNT):

- # of patients that need to be treated for one to benefit compared with a control in a clinic trial.
- Ideal NNT is 1 – everyone improves with treatment and no one improves with control.
- The higher the NNT, the less effective the treatment.

Numbers needed to harm (NNH):

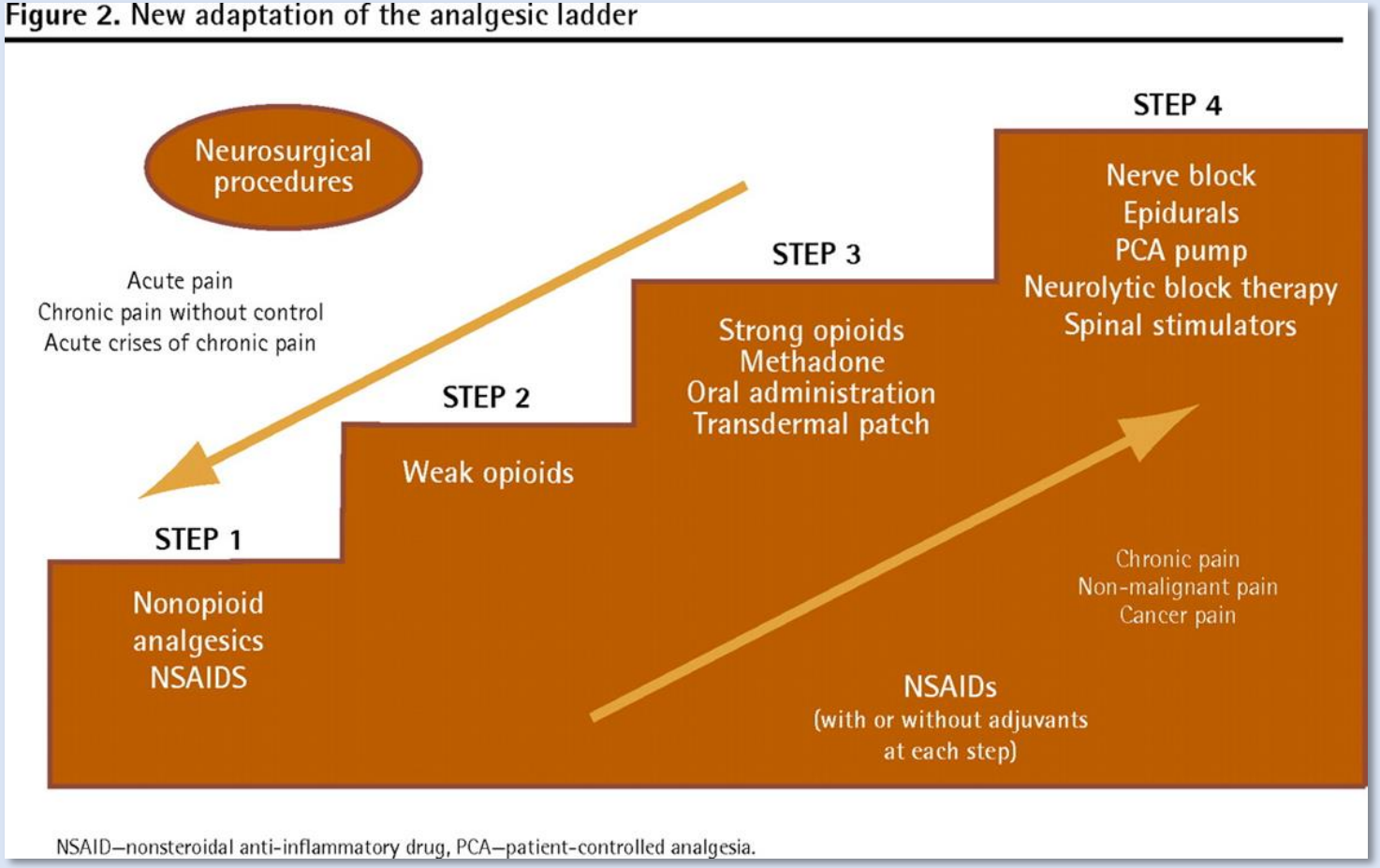
- Measure side effects or adverse events with a medication.

Multimodal Treatment Plan:



Adapted WHO Analgesic Ladder

Figure 2. New adaptation of the analgesic ladder



NSAID—nonsteroidal anti-inflammatory drug, PCA—patient-controlled analgesia.

WHO Analgesic Ladder – Cont.

- Oral dosing whenever possible.
- Around the clock administration rather than on-demand.
- Prescribe analgesics according to pain intensity.
- Individualized therapy addressing the concerns of the patient.

Pediatric Analgesic Pharmacokinetics

Newborn to toddlers:

- Delayed maturation of liver drug metabolizing enzymes compared to older children and adults until approximately 6 months of age.
- Slower kidney glomerular filtration rate (GFR) until two years of age.
- Delayed drug metabolism and clearance
- Maturing respiratory drive – careful opioid titration and monitoring

School aged children

- Often higher weight based dosing, rapid clearance of drugs

Adolescents:

- similar to adults

Pharmacological Treatments

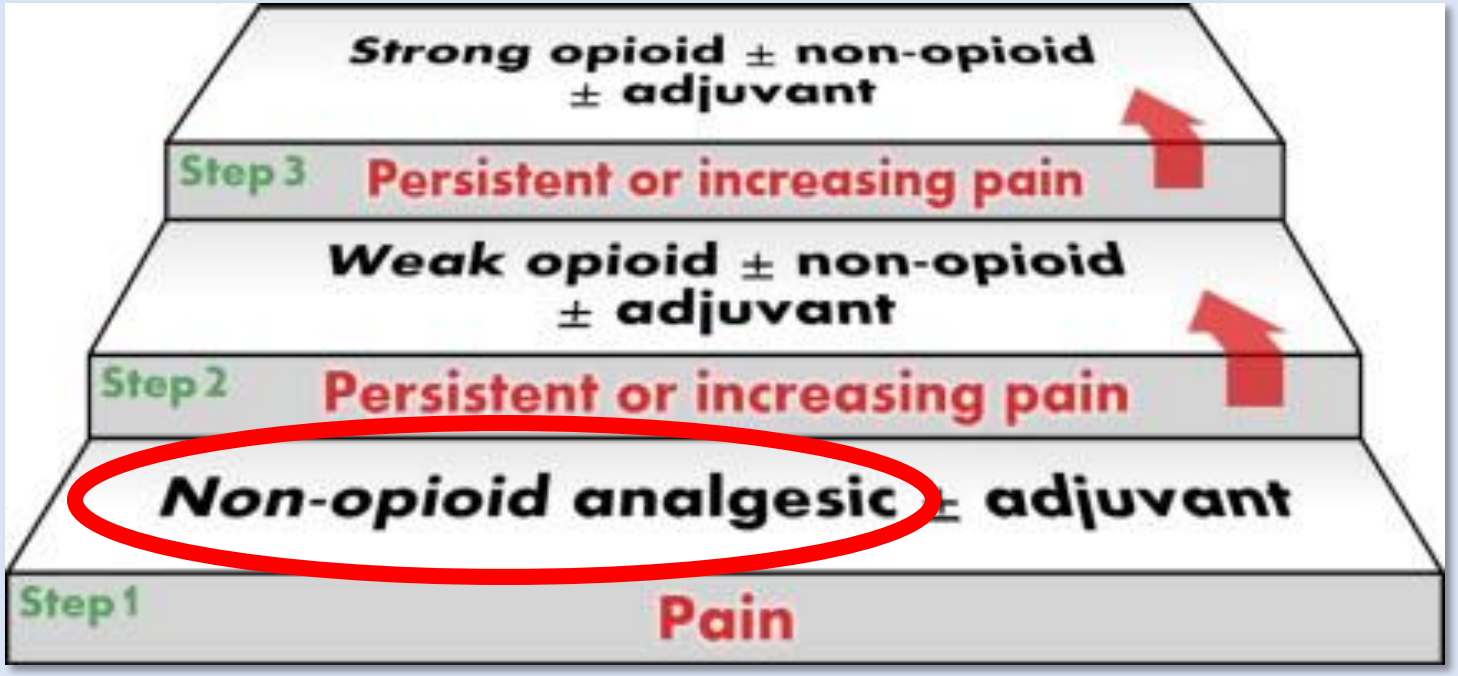
Acute Pain Treatments:

- Acetaminophen
- NSAIDs
- Opioids (short term)
- Muscle relaxant (for acute muscle spasms)
- Topical treatments

Chronic Pain Treatments

- Acetaminophen
- NSAIDS
- Anticonvulsants
- Antidepressants
- Topical Medications
- Opioids (in some cases)
- Nerve blocks

Simple Analgesics:



Acetaminophen

Most widely used analgesic in children.

It is safe in all age groups and has a low side effect profile.

Good for mild to moderate pain by itself.

Lack anti-inflammatory effects

Potentiated effect when combined with other analgesics such as NSAIDS or opioids.

Keep an eye on maximum dose – particularly when patients are taking other acetaminophen combination products.

Effect of Intravenous Paracetamol on Postoperative Morphine Requirements in Neonates and Infants Undergoing Major Noncardiac Surgery

A Randomized Controlled Trial

- Ceelie et al. JAMA 2013; 309 (2):149-154.
  - Neonates and infants undergoing major thoracic or abdominal surgery were randomized to iv paracetamol vs continuous morphine group.
  - The paracetamol group received 66% less cumulative morphine in the first 48 hours postoperatively compared to morphine group.
  - Pain scores and adverse events were not significantly different between groups.

Nonsteroidal Anti-inflammatory Drugs

NSAIDS provide pain relief, decrease inflammation, and reduce fever through direct inhibition of prostaglandin synthesis via the cyclooxygenase (COX) pathway.

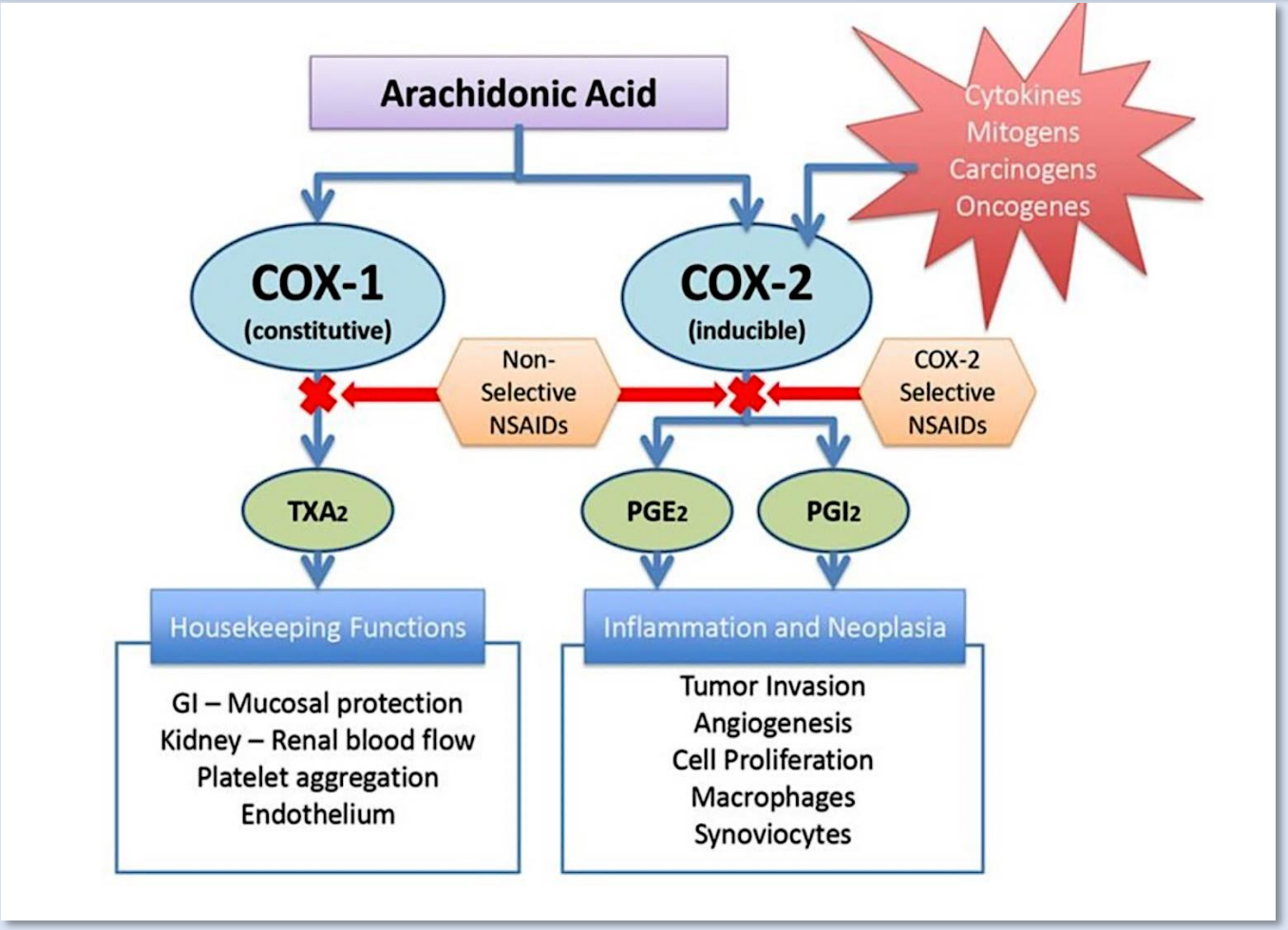
Risks include GI and renal toxicity with chronic use, especially in children with associated risk factors.

Ibuprofen is the most commonly used NSAID in children 6 months of age or older.

First line treatment for: musculoskeletal pain, inflammatory arthritis, dysmenorrhea, and abortive treatment for acute migraines.

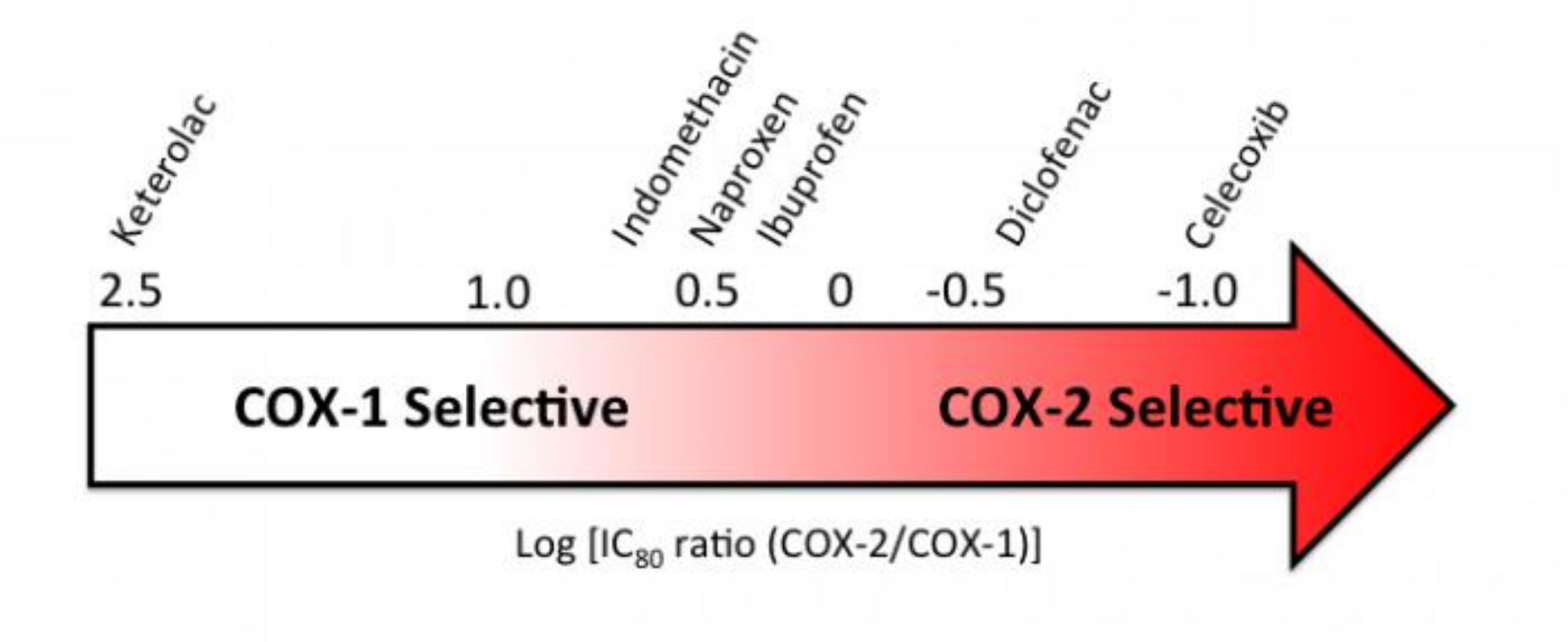
Acetaminophen and NSAIDS can be safely combined without an increase in their adverse effects.

NSAIDS:



M, A, Eisa.; *et al*. Potential COX2 Mediated Therapeutic Effect of Ciprofloxacin. *Journal of Medical Research.* 2021, 32(3): 47-57.

NSAIDS Selectivity:



Oral administration of morphine versus ibuprofen to manage postfracture pain in children: a randomized trial

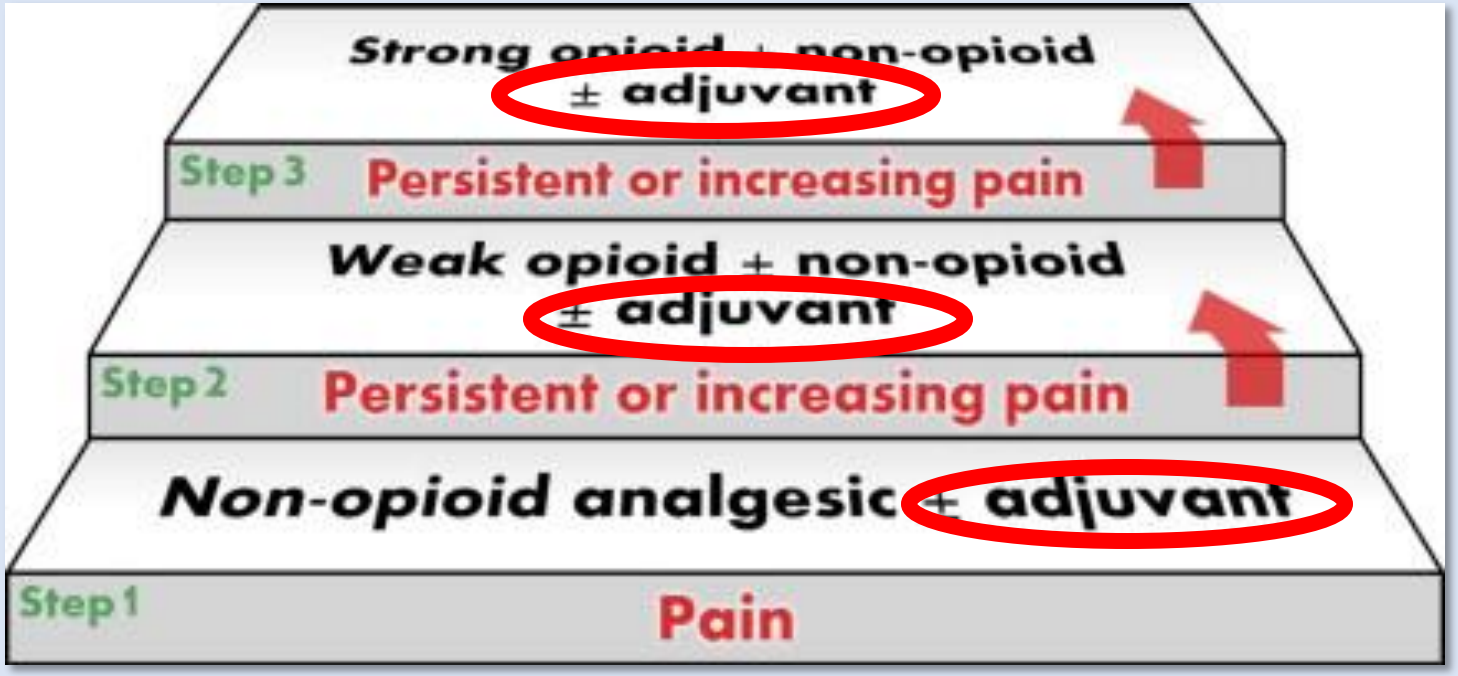
Poonai N et al. CMAJ 2014

- Morphine vs Ibuprofen RCT
- 134 children with uncomplicated extremity fractures were randomized to receive either morphine (0.5 mg/kg) or ibuprofen (10 mg/kg) for 24 hours after discharge.
- No difference in pain scores at any time point.
- Less nausea with ibuprofen (NNT=5)

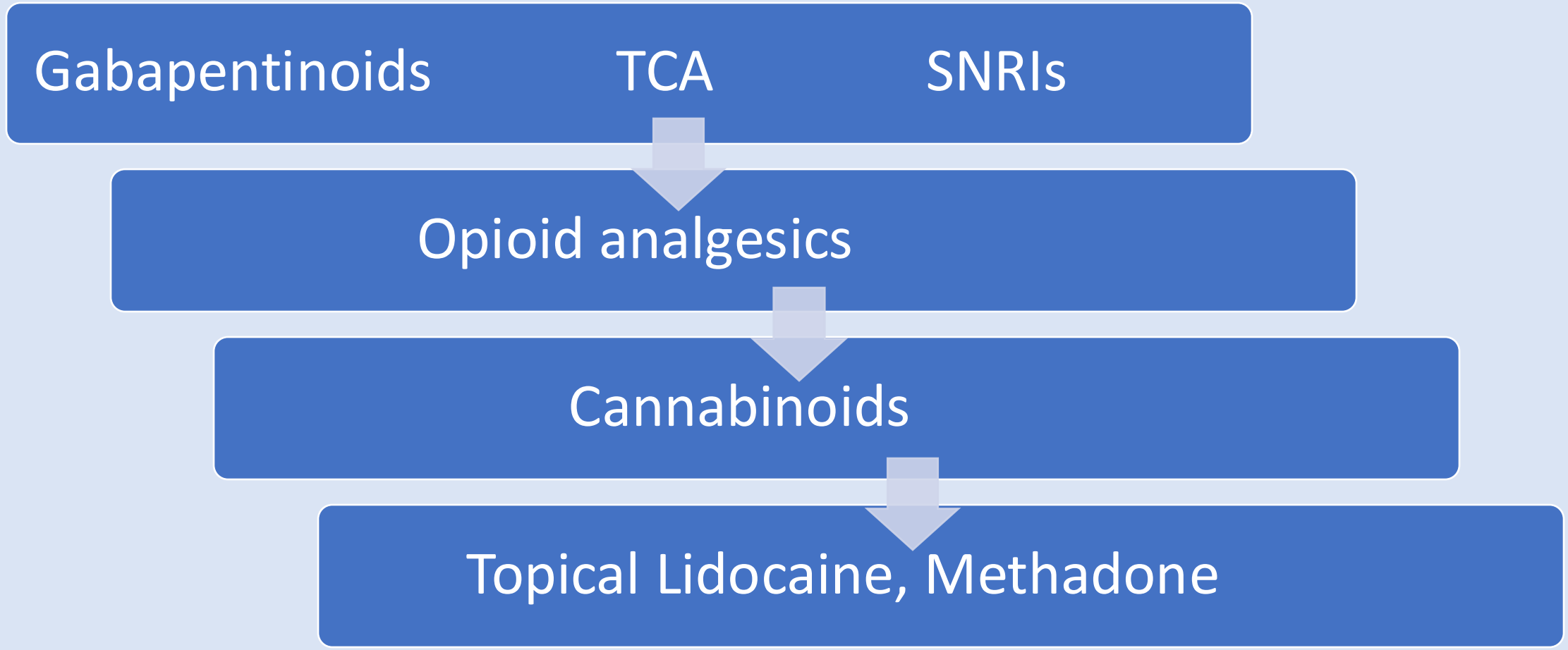
Non-Opioids for Mild Pain

Medication	Initial Dose	Interval	Dosage Forms
Acetaminophen	10-15 mg/kg	4-6 h	Many oral dosage forms 160mg/5ml liquid
Ibuprofen	5-10 mg/kg	6-8 h	10 mg/1ml; 200mg, 400mg, 600mg
Naproxen	5 mg/kg	12 h	125 mg/5ml; 220, 250 mg
Diclofenac	1 mg/kg	8-12 h	25 mg, 50 mg
Celecoxib	1-2 mg/kg	12-24 h	100, 200 mg

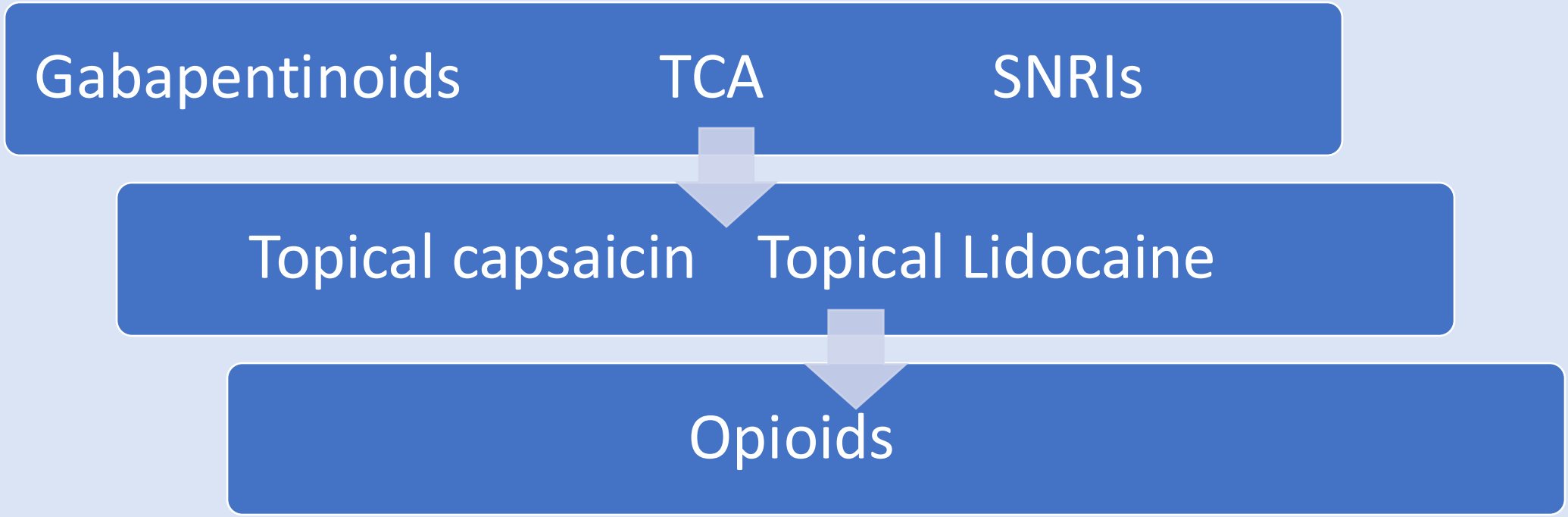
Adjuvant Analgesics:



CPS Neuropathic Pain Treatments



NeuPSIG Neuropathic Pain Treatments



1st Line: Gabapentin and Pregabalin

Drug Class	Potent anticonvulsant
Mechanism of Action	Bind to presynaptic voltage gated calcium channel. Correlates with decreased calcium channel function and release of neurotransmitters
Elimination	Renal clearance Dosage must be adjusted proportional to reduction in creatinine clearance. No liver metabolism No known drug interaction
Side Effects	Somnolence, dizziness, ataxia, nystagmus, tremor, disinhibition and rage
Tips for success	If side effects are bothersome, consider higher dosage at night and smaller dosage during the day. 6:1 rule to switch to pregabalin

Gabapentinoids

Pregabalin

- Arnold LM et al. Pediatric Rheumato Online J. 2016 14(1):46
- Pregabalin in juvenile fibromyalgia: failed to show analgesic benefit compared to placebo, although secondary outcome measures including global impression of change were significantly improved in the treatment group.
- Start at 0.5-1mg/kg BID and titrate up to 2 mg/kg BID.

Gabapentin:

- Available in liquid formulation
- Easier titration, particularly in younger children
- Start low, go slow.
- Start at 2 mg/kg TID, titrate slowly up to 10 mg/kg TID

1st Line: Amitriptyline, Nortriptyline

Drug Class	Tricyclic Antidepressant
Mechanism of Action	Inhibit reuptake of serotonin and norepinephrine
Drug Interactions	Metabolized by CYP450 2D6 Variation in metabolism due to genetic polymorphism Potential for drug interactions and serotonin syndrome e.g. tramadol, SSRI Risk of QT prolongation and drug interaction (eg. Ondansetron, methadone, erythromycin)
Side Effects	Dry mouth, Dizziness, somnolence, postural hypotension, disinhibition, blurred vision, ataxia
Tips for Success	Recommend baseline ECG to r/o possible QTc interval prolongation. Start low and go slow

Contents lists available at ScienceDirect

Scandinavian Journal of Pain

journal homepage: www.ScandinavianJournalPain.com

Clinical pain research

A randomized controlled trial of amitriptyline versus gabapentin for complex regional pain syndrome type I and neuropathic pain in children

S.C. Brown[a,b,*], B.C. Johnston[a,b,c,d], K. Amaria[e], J. Watkins[a,b], F. Campbell[a,b], C. Pehora[a], P.A. McGrath[f]

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HIGHLIGHTS

- 1st paediatric study for amitriptyline and gabapentin for CRPS I and neuropathic pain.
- Amitriptyline and gabapentin proved similarly effective for decreasing pain scores.
- No difference between amitriptyline and gabapentin in decreasing sleep disruption.
- No difference between amitriptyline and gabapentin in adverse events.

1st Line: Duloxetine, Venlafaxine

Drug Class	SNRI - Duloxetine, Venlafaxine
Mechanism of Action	Selective serotonin and norepinephrine reuptake inhibitor
Dosing	Start at 30 mg daily, slow titration to 60 mg daily if no side effects.
Drug Interactions	Metabolized by CYP450 – potential for drug interactions and serotonin syndrome (e.g. Tramadol)
Side Effects	Sedation, fatigue, diarrhea, constipation, nausea, insomnia, hypersomnia, dizziness, weakness, drowsiness, headaches, agitation, vomiting, tension, nervousness 2-fold increase in suicidal ideation and behavior in children and adolescents

Research article | Open Access | Published: 28 May 2019

Efficacy and safety of duloxetine versus placebo in adolescents with juvenile fibromyalgia: results from a randomized controlled trial

Himanshu P. Upadhyaya, Lesley M. Arnold, Karla Alaka, Meihua Qiao, David Williams & Renata Mehta

Pediatric Rheumatology **17**, Article number: 27 (2019) | Cite this article

- 184 adolescents with juvenile fibromyalgia randomized to duloxetine or placebo for 13 weeks.
- No significant difference in average pain intensity.
- More patients taking duloxetine had a treatment response (> 30% and > 50% reduction in average pain intensity) and improvement of general activity and relationship with others items on the BPI.

First Line Agents

First-Line Agents	NNT	NNH
Gabapentinoids	8.9	26.2
SNRI	7.4	13.9
TCA	4.6	17.1

Cannabinoids:

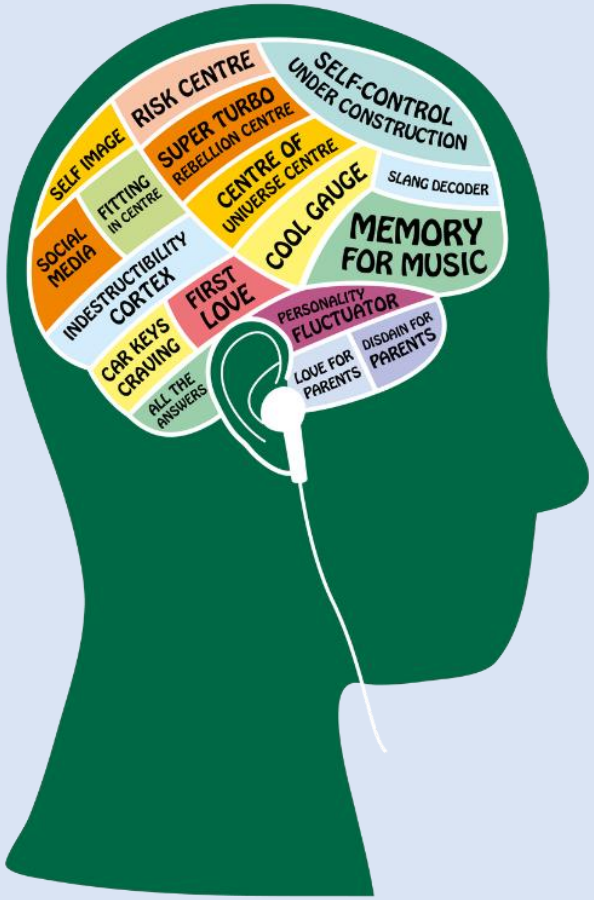
Table 4. Summary of previous studies on the use of cannabinoids for chronic noncancer pain treatment in children and adolescents.

Study (country)	Study Design	Patient Characteristics	Intervention	Pain Outcomes
Current study (Canada)	Retrospective cohort study	28 children aged 4 to 16 with chronic noncancer pain	Nabilone 0.25–4 mg/day for variable duration	25% of patients reported a small reduction of between 0.5 and 1.5 on the Numeric Rating Scale in pain scores
Libzon et al.[12] (Israel)	Randomized noncontrolled trial (no placebo control group)	25 Children aged 1 to 17 years with complex motor disorders	Patients were randomized to two different CBD-enriched 5% oil formulations (CBD-to-THC ratio 6:1 vs. CBD-to-THC ratio 20:1) administered for 5 months	1.41-point reduction in pain out of 10 on visual analog scale in both treatment groups
Rudich et al.[11] (Canada)	Case report	Two adolescents with CRPS type 1	Dronabinol 5–25 mg/day for 4 months	One participant reported 45% improvement in pain intensity, whereas the second reported no improvement; 50% reduction in affective component of their pain

Sun N et al. Synthetic cannabinoids for the treatment of severe chronic noncancer pain in children and adolescents. Can J Pain. 2022

Cannabis Exposure and Brain Development in Youth

- Structural Changes on MRI
  - lower brain volumes
  - Different folding patterns
  - Thinning of the cortex
  - Less neural connectivity
  - Lower white matter integrity
- Functional MRI
  - Demonstrated increased neural activity – brain is working harder to perform task.
- Increased risk of developing mental health issues (depression, suicidal behavior).

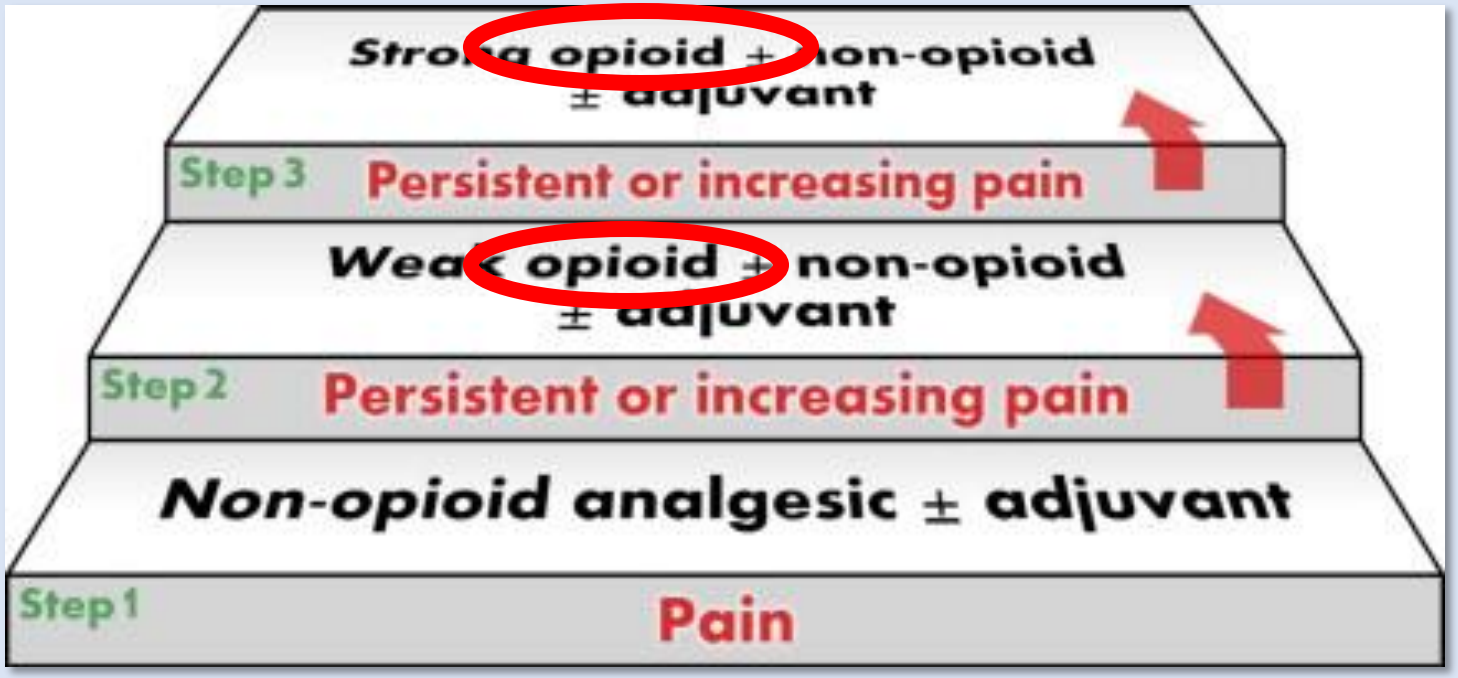


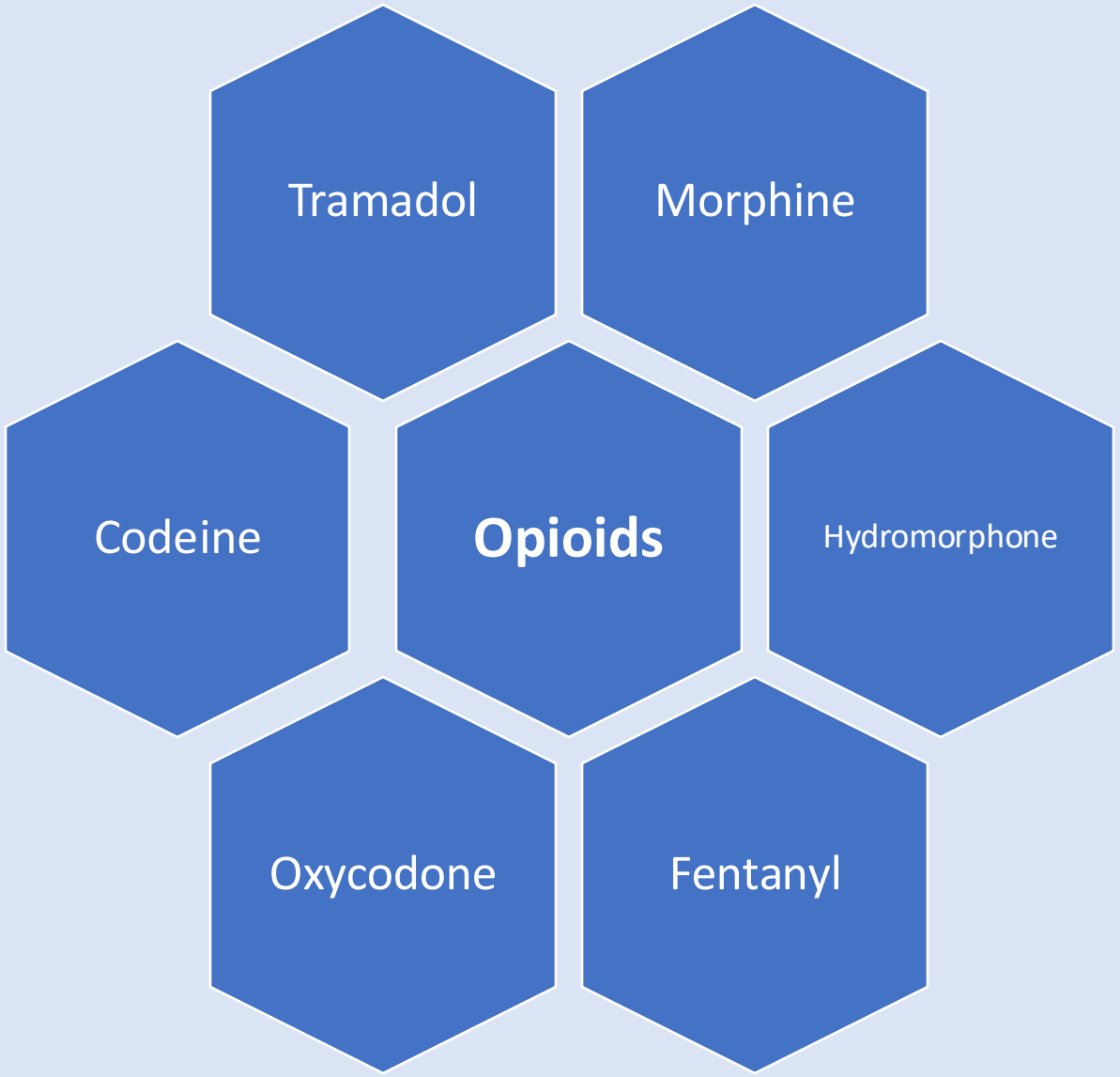
Cannabinoids Guideline:

There are some evidence from studies in adults that suggest cannabinoids may have a place in treating chronic pain, but there is little research to directly support the use of cannabinoids to treat pediatric chronic pain.

Recommend using evidence informed clinical judgement to weigh the potential benefits and harms on a case-by-case basis.

Opioids:


Strong opioid ± non-opioid
± adjuvant
Step 3
Persistent or increasing pain
Weak opioid ± non-opioid
± adjuvant
Step 2
Persistent or increasing pain
Non-opioid analgesic ± adjuvant
Step 1
Pain


Tramadol
Morphine
Codeine
Opioids
Hydromorphone
Oxycodone
Fentanyl

Opioids

Morphine:

- Avoid in children with renal failure
- Can be given in oral, IV, and IM routes

Hydromorphone:

- 5x more potent than morphine.
- Less pruritus than morphine

Oxycodone:

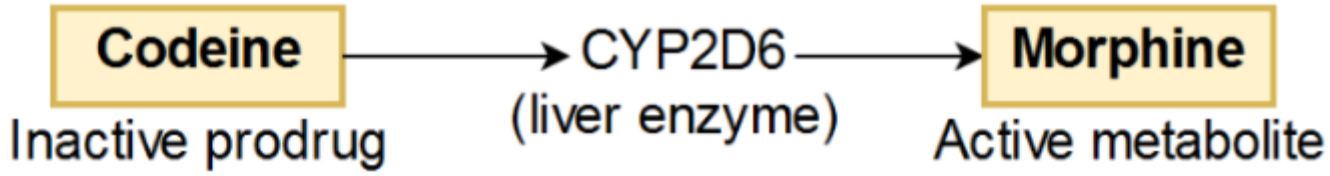
- Undergoes partial metabolism by CYP2D6 to an active metabolite. Pharmacokinetics is also variable, especially in infants

Tramadol:

- Weak agonist at the Mu opioid receptor and weak inhibitor of norepinephrine and serotonin reuptake.
- Also has metabolism by CYP2D6 enzyme
- FDA does not recommend tramadol use in children.

Codeine: Time to Say "No"

Joseph D. Tobias, MD, Thomas P. Green, MD, Charles J. Coté, MD, SECTION ON ANESTHESIOLOGY AND PAIN MEDICINE, COMMITTEE ON DRUGS



1. Codeine **should not be prescribed** to children
2. Codeine may cause unanticipated respiratory depressions and deaths in children who are **ultrarapid metabolizers**

Zoom Poll Question #4

- If a child develops pruritus with morphine, all opioids should be avoided for pain treatment in the future.

- A) True
- B) False

Common Opioid Related Side Effects

Pruritus:	Emesis:	Sedation:	Constipation
• Anti-pruritic: cetirizine • Low dose naloxone: 0.25 - 1 mcg/kg/h • Rotate opioid	• PRN anti-emetics • Optimize opioid sparing analgesics • Rotate opioid • Low dose naloxone	• Decrease opioid dose if pain well managed • Rotate opioid • Switch to enteral route in patient tolerates	• Decrease opioid dose if pain well managed • Promote physical activity • Stool softener, laxatives

Plasma Half Life of Commonly Used Opioids:

Drug	Elimination half life (h)
Remifentanil	0.5
Hydromorphone	2.5
Morphine	2.5-3
Sufentanil	3
Fentanyl	3.5
Methadone	**24-36**

Boisvert-plante V, et al. What we know and what we don't know about the perioperative use of methadone in children and adolescents. Paediatr Anaesth. 2023; 33(3):185-192.

SickKids®

Methadone: Advantages

Pharmacologic Property	Benefits
NMDA antagonist	• Decreased rate of opioid tolerance • Useful for neuropathic pain
Lipophilic	• High bioavailability ~ 80%
Long half-life	• Extended dosing intervals • Only long-acting opioid in liquid formulation
Renal/GI elimination and lack of active metabolites	• Safe in renal failure

- Other benefits to the use of methadone:
  - Less constipating than other opioids
  - Low cost

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Methadone: Disadvantages

Pharmacologic Property	Disadvantages
Hepatic metabolism via cytochrome P450 system	• High inter-individual variability in pharmacokinetics • Many potential drug-drug interactions
Long half-life and large volume of distribution	• Risk of drug accumulation and respiratory depression
Inhibition of cardiac voltage-gated potassium channels	• Q-T interval prolongation • ↑ risk of torsades de pointes

- Other challenges to the use of methadone:
  - Lack of consensus in dose equivalence to other opioids
  - Lack of access to IV methadone in Canada

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Low Dose Naltrexone (LDN)

Opioid antagonist

Proposed mechanism:

- Briefly blocking opioid receptors up-regulates endogenous endorphins.
- Down regulates inflammatory cytokine release

Low dose – 0.5 – 4.5 mg once daily.

Small clinical trials suggest some efficacy in Crohn’s disease and Fibromyalgia.

CLINICAL PRACTICE GUIDELINE Guidance for the Clinician in Rendering Pediatric Care

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN™

Opioid Prescribing for Acute Pain Management in Children and Adolescents in Outpatient Settings: Clinical Practice Guideline

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Opioids Prescribing for Acute Pain

- Treat pain using a multimodal approach that includes the appropriate use of nonpharmacologic therapies, nonopioid medications, and when needed, opioid medications.
- Should not prescribe opioids as monotherapy for acute pain.
- Use opioids with cautious in patients taking other sedating medications, such as benzodiazepines.

Type:

- Prescribe immediate-acting opioids for acute pain.
- Do not prescribe codeine or tramadol:
  - when treating acute pain in children younger than 12 years.
  - when treating acute pain in adolescents 12- 18 yo with obesity, OSA, or severe lung disease.
  - When treating postsurgical pain after tonsillectomy or adenoidectomy in children and adolescents younger than 18 years.

Opioids Prescribing for Acute Pain

Dose:

- Start with the lowest age and weight appropriate dose and allow for upward titration if analgesia is ineffective.

Duration:

- Provide an initial supply of 5 days or fewer, unless pain is related to trauma or surgery with longer expected duration.

Education:

- Provide naloxone and counsel patients and families on sign of opioid overdose and how to respond.
- Instruct patient and families on safe storage and disposal of leftover medication.
- Provide education on expectation regarding pain, how the efficacy of opioids will be assessed, and tapering of medication.

Chronic Pain:

- Prescribe opioids when clinically indicated for managing acute pain in children and adolescents with pre-existing chronic pain. When possible, involve specialists in chronic pain, palliative care, or an opioid stewardship program.

Zoom Poll Question #5

How should we instruct families to dispose of unused prescription opioids in the home?

A. Flush down the toilet
B. Dispose in trash can
C. Return to local pharmacy
D. Keep in medicine cabinet in case they need it in the future.

Zoom Poll Question #6

What percentage of adolescents in Ontario report using a prescription opioid analgesic without medical prescription in the past year?

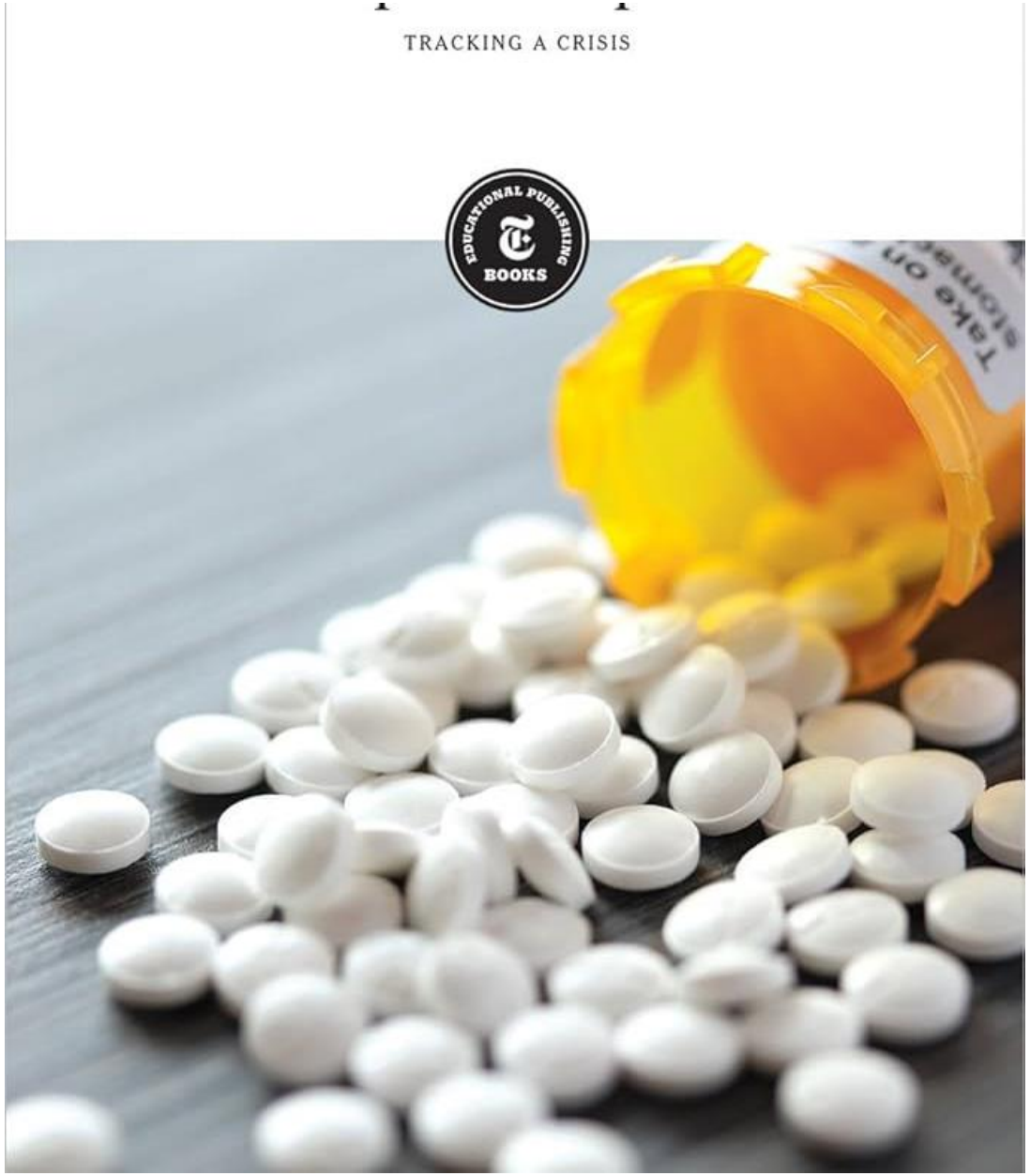
A. 2%

B. 5%

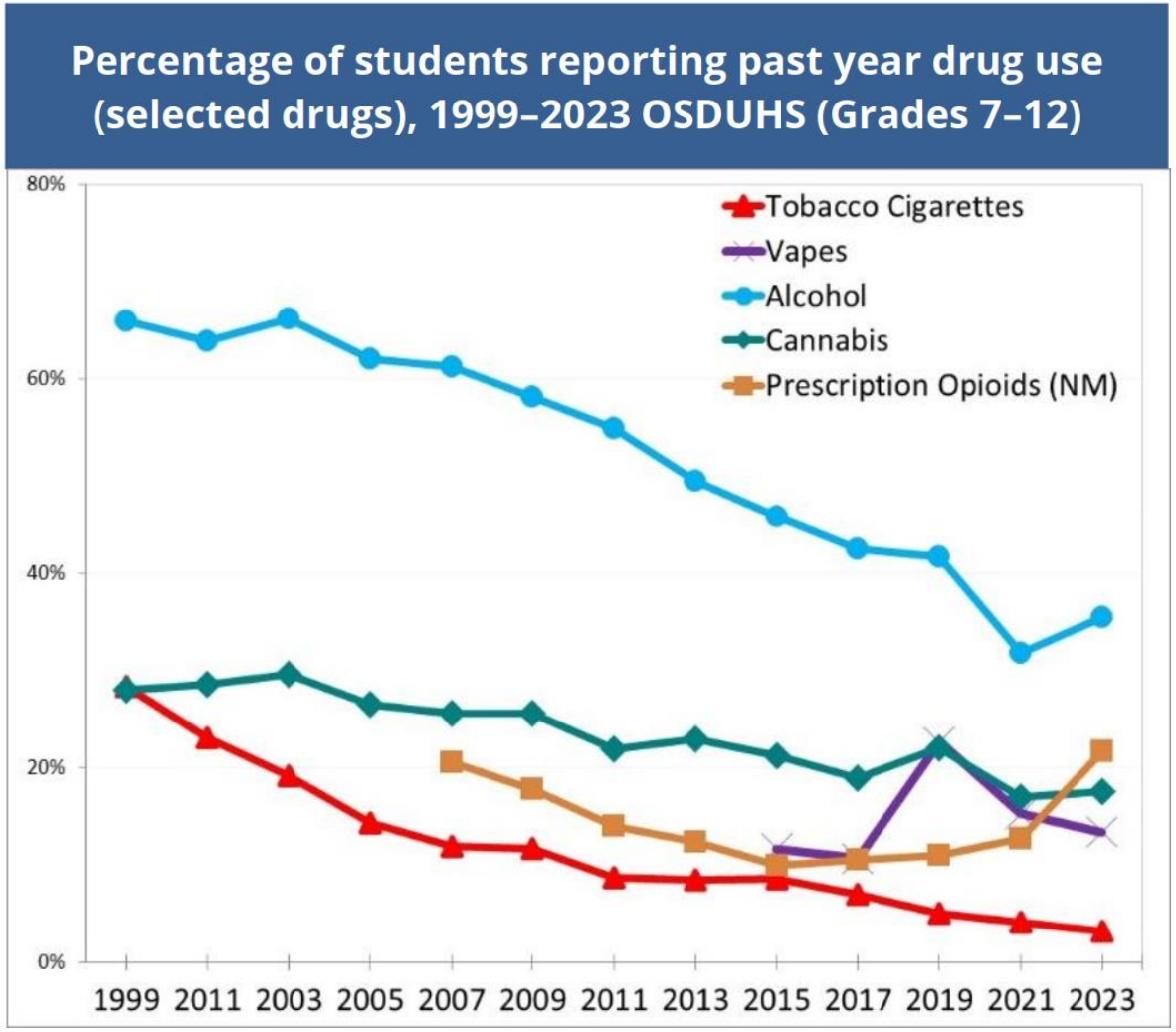
C. 10%

D. 20%

Opioid Stewardship



Past Year Nonmedical Use of Prescription Opioid Pain Relievers in Ontario



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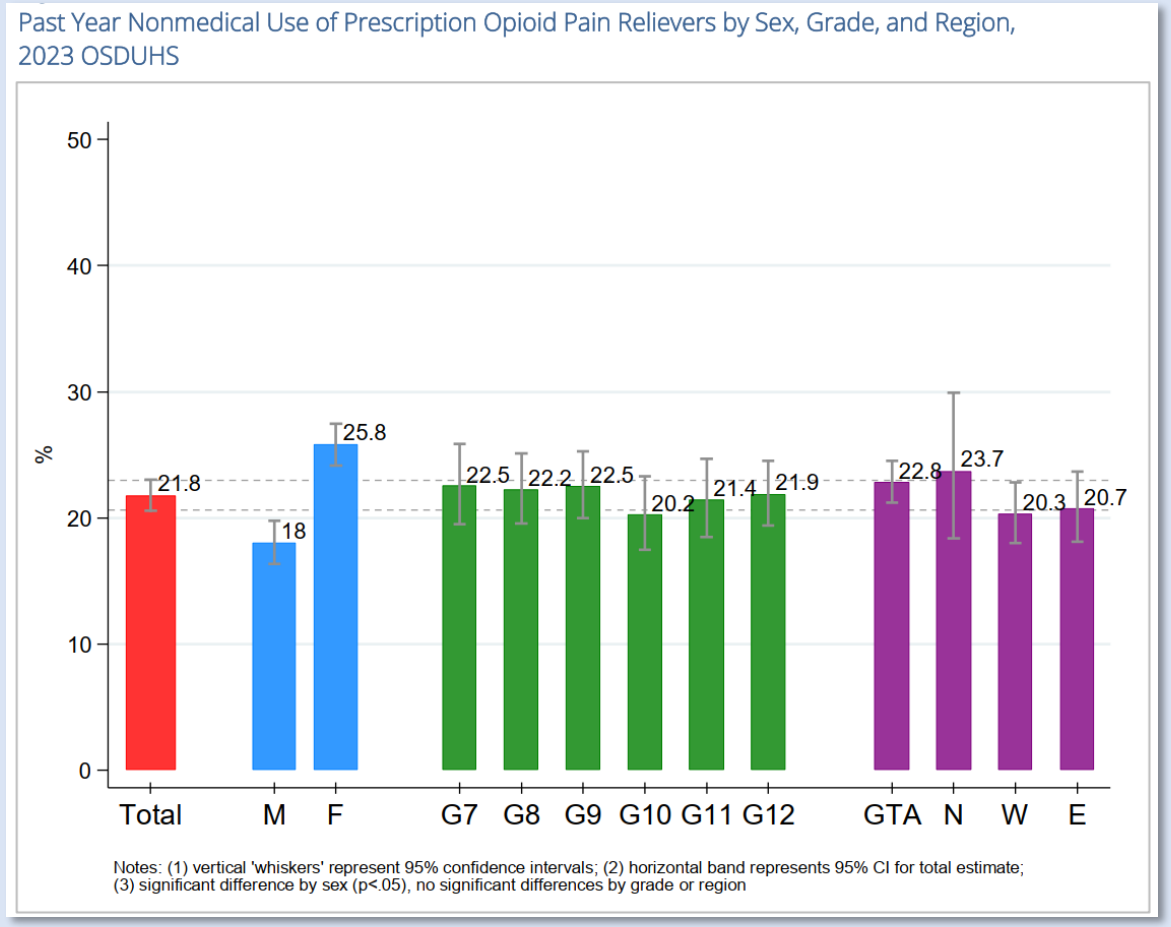
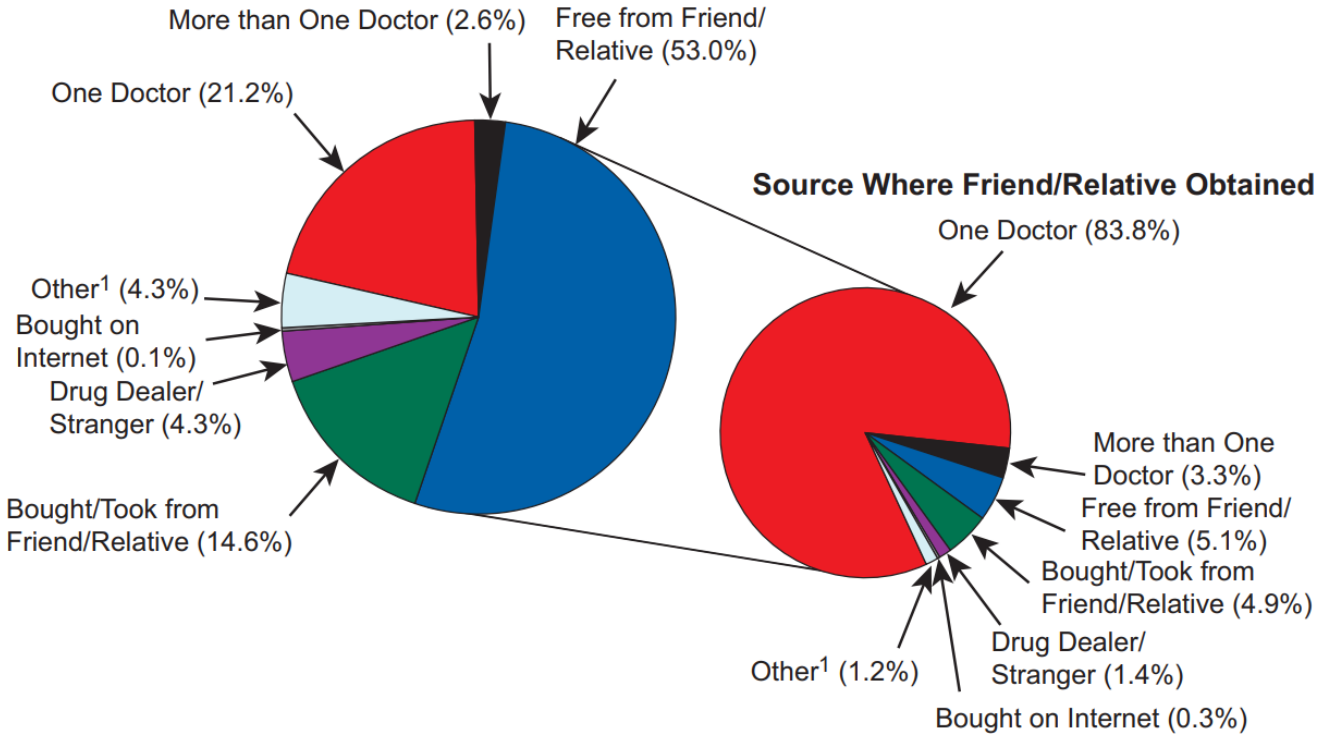


Non-medical use of Prescription Opioids in adolescents

- Through unused prescriptions, healthcare providers may inadvertently add to the supply of opioids within the community.
- Among high school seniors who report non-medical use of prescription opioids, 80% access leftover medication from a legitimate prescription.



[1] The Other category includes the sources "Wrote Fake Prescription," "Stole from Doctor's Office/Clinic/Hospital/Pharmacy," and "Some Other Way."

Note: The percentages do not add to 100 percent due to rounding.

Prolonged Opioid Use after Surgery (POUS) in Children, Adolescents, and Young Adults:

Type of Surgery	Rate of POUS (%)
Arthroscopy	2.6-11.8
Myringotomy	0.8-3.7
Appendectomy	1.2-7.1
Spinal fusion	4.7-6.8
Tonsillectomy and Adenoidectomy	0.8-4.8

Sun N, et al. Prolonged opioid use after surgery in children, adolescents, and young adults: a systematic review. Can J Anaesth. 2025 Apr;72(4):579-590.

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Opioid Prescribing for Chronic Pain

- Which pediatric chronic non-cancer pain conditions?
  - Tissue damage – e.g. severe inflammatory MSK pain, EB.
  - Severe CRPS to facilitate PT
  - Sickle Cell disease, Osteogenesis Imperfecta, Ehler Danlos.
- Opioids do not have a role in the majority of primary pain conditions in children including abdominal pain, headache, and widespread MSK pain.
- Emphasize improvement in function

Canada's First National Pediatric Pain Management Standard.

CAN/HSO 13200:2023 Pediatric Pain Management standard

Pediatric Pain National Standard

Acute Pain

- Use the lowest effect dose of the most appropriate opioid for the shortest duration necessary for managing the child's pain.
- Typically a duration of three days or less is required for uncomplicated procedures or injuries.

Chronic Pain:

- If there is a need for long-term opioid use, establish a clear plan that identifies a single prescriber and include regular follow up, communication, and record keeping.

Goal Setting

- Set realistic expectations.
- The focus is not complete elimination of pain.
- With chronic pain, focus more on function and less on a pain scale.
- Only use if there is clear evidence of improved function.
- Re-evaluate impact on function frequently.

"I want to be able to go on a 30 minute bike ride with my friends by the end of summer"

GENERAL PRINCIPLES OF CHRONIC PAIN MANAGEMENT

Balanced Analgesia - More than one class of analgesic or adjuvant each working in a different way = better pain relief with fewer side effects

Start low and go slow – titration is critical to limiting side effects

Trial and error approach – inter-individual variation in response to treatment.

Set realistic expectations: improve function with minimal side effects, and reduce pain.

Multidisciplinary Pediatric Pain Treatment:

Pharmacological
- WHO ladder
- Adjuvant tx

PATIENT

Physical
- Ice/heat
- Positioning
- TENS
- Massage

Psychological
- Education
- Distraction
- Relaxation

Patient Brad:

- Trialed Gabapentin, Pregabalin, Amitriptyline, Nabilone and Compound topical pain medication.
- Venlafaxine found to be most helpful.
- PT: desensitization exercises, graded exercise program
- Psychology to help manage mood and anxiety - mindfulness, acceptance commitment therapy
- OT: school liaison to help advocate for accommodation
- His mood also improved and no longer considering self harm.
- Continued to struggle with chronic pain, but pain and function both slowly improving.

Key Take-away Messages

- Analgesics have useful roles for many kinds of pain.
- Pharmacological treatment is just one prong of the multi-disciplinary pain treatment.
- Opioid prescribing is indicated for management of acute pain, cancer pain, sickle cell pain, and for end of life symptoms.
- Long-term medications should be used with caution and with consideration of risks, benefits and alternatives.
- Emphasize improvement in function.

Online Pediatric Pain Curriculum:

Interprofessional Pediatric Pain Programs in Ontario:

Holland Bloorview Kids Rehabilitation Hospital
A world of possibility

Hamilton Health Sciences

Ontario
Ministry of HEALTH AND LONG-TERM CARE

CHEO

London Health Sciences Centre

SickKids | Pain Centre

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Questions?

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